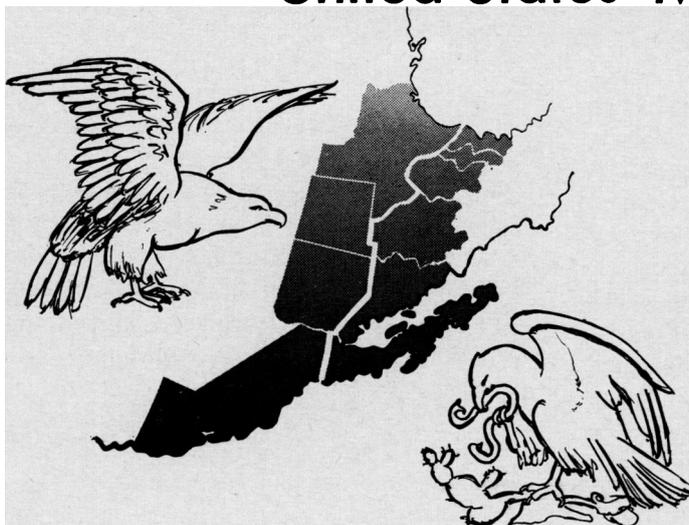


United States-Mexico Border



Public Health Association

CONFERENCE REPORT

A border 2,000 miles long, crossed 75 million times in the course of a year, gives rise to human relation problems with direct or indirect bearing on the health of communities and the individuals who live in them.

ABRAHAM HORWITZ, M.D.

By interlinking public health planning along their common border, the United States and Mexico have been taking a realistic approach to the fact that disease recognizes no political boundary. The vehicle for their joint health efforts, the United States-Mexico Border Public Health Association, has for more than 17 years attacked issues of common concern through conference discussion and committee studies and has organized integrated action.

The 17th annual meeting of the association held in Brownsville, Tex., and Matamoros, Tamaulipas, Mexico, between March 30 and April 3, 1959, was attended by more than 300 public health workers. Speakers and delegates delineated the scope of public health responsibility, analyzed the interplay of public health and environmental elements, marked out areas for intensified effort, and reported achievements in control and research.

Presiding over the opening plenary session, Dr. Abraham Horwitz, director of the Pan American Sanitary Bureau, World Health Organization Regional Office for the Americas, emphasized that the economic matrix of a society nourishes or stunts the people's health and conversely the degree of progress of a community hinges largely on the abundance of human energy derived from sound health. In extensive parts of the Americas, he said, deficient nutrition and scarce water supply and other unfavorable conditions drain off the lives and energy needed to transform those conditions. Public health techniques must harmonize with all other activities which condition the individual's well-being. Among his other recommendations was the integration of all community public health activities within the local health agency, using the family as the basic unit. Public health workers should be aware, he

believes, of the trend toward pooling the hemisphere's spiritual and material wealth. As a short-run international health aim, he proposed an attack on diseases with strong economic ramifications; long-run goals should focus on creating and expanding local and national health services and training professional personnel.

Recognition of the frontier as "a two-way street" rather than as a barrier, observed Dr. John C. Cutler, Assistant Surgeon General for Program, Public Health Service, is contributing, through the exchange of venereal disease contact data, to control in areas far from the border as well. He urged each health agency and clinic providing services to braceros to function also as a venereal disease control station. After illustrating how venereal disease control activities have pioneered in casefinding and administrative techniques, he pinpointed one of the current challenges as the proportional increase in infectious syphilis among persons under 20 years old.

Another conference highlight was a roundup by Dr. David E. Price, Assistant Surgeon General and chief of the Bureau of State Services, Public Health Service, of health research in the United States during 1958, particularly in cancer chemotherapy, psychopharmacology, new drugs, and studies of viruses in the cause of cancer. Among current and anticipated challenges to public health planners he named staphylococcal strains resistant to antibiotics, shortages of medical personnel, and the negative health facets of urban environment.

For the past 4 years, he observed, there has been no material rise in life expectancy at birth. This expectancy can be increased mainly by maintaining the health and vigor of the growing number of persons of middle age and older.

Dr. Domingo Cervantes Gonzalez and co-workers summarized their activities in the Mexican National Antimalaria Campaign during 1958 in Tamaulipas, Mexico. An account of the construction and development of the Hermoso Valley, Mexico, water system was presented by Alfredo Sahagun Sahagun, the system's manager. During the session, the participants selected Hermosillo, Sonora, for their 1960 meeting.

Following are summaries of selected papers presented at the conference.

Mexican School Hygiene Covers Broad Scope

A function of school hygiene in Mexico, in promoting students' physical, mental, and moral health, is to monitor the environment in and around the school for unwholesome elements, asserted Dr. Manuel Aveyra Arroyo de Anda, director general of school hygiene, Ministry of Public Education, Mexico City. Hygiene units, he explained, watch the neighborhood for sale of unhygienic foods, inappropriate businesses, and unsafe traffic conditions.

Relating highlights of Mexico's 77-year experience with school hygiene, Aveyra revealed that Aztec children were taught rigid hygiene practices and were lightly clothed for health and growth. Colonial Mexico had medical inspection of Royal University students and smallpox vaccination, leading to the disease's ultimate eradication. Correctional houses, he said, date from the postindependence era when juvenile delinquency was serious, and a school for deaf-mute children was founded by Emperor Maximilian. A pedagogic-hygienic congress in 1882 produced the scientific, organized application of school hygiene, followed not long after by the setting up of a special unit of medical and hygienic inspection for schools.

School hygiene, stated Aveyra, aims to promote in students "assimilation of learning, adaptation to the prevailing medium, hygienic habits, and sanitary convictions." Since teachers are basic supports, students of normal schools are screened for the mentally and physically unfit and teaching candidates are periodically checked and provided health services. Throughout their careers, teachers' health is watched; they are given hygiene publications, courses, and lectures. Also, they take active part in routine hygiene work. In schools without hygiene services, they receive instructions for their own health care and pupils' hygiene. All kinds of workers on school premises come under the hygiene program.

Following set norms, pupils are given health education and guidance in psychic and biological development, including medical assistance and rehabilitation. They receive medical-prophylactic examinations and are classified and vaccinated. In 1958, stated Aveyra, the hy-

giene department examined about 773,000 pupils, of which roughly 154,000 were found with a disease.

Among the activities he described was the 1953 antituberculosis campaign, in which school children sold almost 3 million stamps, thus raising funds to start an antituberculosis dispensary for the schools. In school festivities, such as School Hygiene Week, parents mingle with school personnel and pupils and are exposed to information on hygiene. Home visits are made by committees on school hygiene composed of students elected by classmates, trained by school medical personnel, and supervised by a selected teacher.

Aveleyra mentioned that the work of each school medical zone, comprising schools totaling 4,500 to 5,000 pupils, is planned with flexibility yearly in advance by the department of school hygiene and school authorities.

Encephalitis in Texas Had Economic Impact

The three encephalitis viruses, first found concurrently in south Texas in 1941, have been an important public health challenge there during 3 of the last 5 years. This was mentioned in a brief review of findings on these viruses in Texas by Dr. J. V. Irons, Dr. Richard B. Eads, James E. Grimes, and Thelma D. Sullivan, division of laboratories, Texas State Department of Health. One reason, they said, lies in the relatively abundant water supply in the Lower Rio Grande and extended irrigation of the Texas High Plains area which favored propagation of mosquito vectors. Western and St. Louis encephalitides are most active in Texas; eastern, the least.

Small outbreaks occurred in 1944 and 1952. Then in 1954 an outbreak was followed by 500 cases later that year in Hidalgo County, mainly from western encephalitis. The St. Louis variety predominated in a large 1956 outbreak in the Texas High Plains and caused a lesser one in Cameron County in 1957.

In the Hidalgo and Cameron County outbreaks, illness ranged from numerous subclinical cases to an occasional fatality, affecting all age groups but mostly young-adult and middle-aged men. The economic impact was heavy.

RESOLUTIONS

Among the resolutions adopted during the 17th annual meeting of the association were those dealing with:

- more intensive efforts toward control of venereal disease in border cities, including serologic testing of migrant labor, greater use of municipal, State, and Federal resources, and extended training.
- recommendations that infectious syphilis cases be considered medical emergencies, calling for exhaustive epidemiological study and rapid control.
- intensification and expansion of training for border health personnel, including opportunities for observation of conditions and health practices in both countries.
- strengthening health information exchange on both sides of the border.
- for emergency treatment of diarrhea, adequate equipment, physical facilities, and expert personnel, in border health centers.
- possibilities of setting up a scientific committee of experts from both countries to make an epidemiological study of encephalitis along the border and to suggest control measures.

They also pointed out the difficulty of differential diagnosis of encephalitis and aseptic meningitis.

Says Goat Product Output Should Be Industrialized

In large areas of Mexico, the entire goat population may have brucellosis, reported Dr. Alfonso Elizondo of the Rural Cooperative Medical Service in the Mexican Ministry of Health, Mexico City. Rapidity of contagion keeps infection high, he explained, with consequent intensification of health and economic hazards to farmers. Of bovine origin, the disease is under gradual control through pasteurization and livestock vaccination.

Elizondo holds that the only practical way to control *Brucella melitensis* from goats is to remove the animals from farmers' living quarters some distance to communal corrals and to organize on a cooperative basis groups of farmers for animal care and small industrial plants for

making goat products. Not only will this reduce brucellosis from animal contact but that from atmospheric dust as well since goat refuse will be far from farm homes. Industrial handling of goat products will control the disease acquired via food. He pointed out that the plan required organizing communities, finances, product distribution, and utility allocation.

Another control technique he mentioned is goat vaccination with live vaccine, so far successful where adequate facilities for evaluating findings exist, as in Comarca Lagunera.

Rabies in Wildlife Blocks Eradication Elsewhere

Though rabies in dogs has been steadily reduced in border areas, the disease in wildlife during the last 10 years has climbed. This has kept the rate of infection among the Nation's domestic animals almost stationary despite public health measures, stated Dr. Donald Miller, veterinarian in charge of the Animal Disease Eradication Division of the U.S. Department of Agriculture, Phoenix, Ariz.

The menace to the livestock industry and to public health calls for a triple-pronged attack: State and Federal control of the disease in urban pets; an attack by the Fish and Wildlife Service and similar agencies on wildlife rabies; and cooperation of the U.S. Department of Agriculture with these authorities, particularly in protecting livestock and poultry. He described Department of Agriculture activities as including epidemiological studies, aid in drawing up local regulations and in spreading control information, and vaccinating dogs on Indian reservations. He also mentioned inspecting, licensing, and testing rabies vaccines.

Among border States, Texas is hardest hit by rabies in domestic animals, said Miller, citing the 49 cases reported there in 1957 and the 74 in 1958. He gave these national figures for 1957: 654 cattle, 24 horses, 13 sheep, 16 swine, and 12 goats. In 1958, reports cover 839 cattle, 37 horses, 34 sheep, 24 swine, and 6 goats.

Rabies Control in Texas

Dr. George A. Martin, veterinary public health division of the Texas State Department of Health, attributed an increase in rabies cases

in Texas in the first quarter of 1959 over the comparable 1958 period to a rise in the number of rodents and other small animals and therefore in the population of predatory animals, such as foxes, coyotes, wolves, and skunks.

In 1958, canine rabies cases totaled 236, said Martin, compared with 52 cases in the first quarter of 1959. For cats, he gave the figures of 21 and 20, respectively, and, after pointing out the difficulties in accurately gauging the extent of wildlife rabies, he estimated comparable totals of 106 and 52 for foxes; 45 and 35 for skunks; and 23 and 27 for cattle.

On the request of local authorities, Martin's unit helps set up rabies control concentrating on immunizing the dog population, controlling stray dogs, and abating the wildlife reservoir when indicated. In an analysis of several local successes and failures in control programs, he mentioned the pitfall of trying to finance control activities through high-priced dog license fees. Registration and immunization slacken as a result, he said. He recommended instead free dog registration as an initial control measure. Success in controlling rabies leans heavily on public education, he concluded.

Salmonella Still Thrives In Contemporary Setting

Modern ways of preserving and transporting food are fraught with the danger of allowing contamination with *Salmonella* organisms and of promoting rapid dissemination, in the opinion of Dr. Carl D. Heather, Ruth Keaton, H. D. Brethower, and Joseph M. Murphy, Jr., of the Texas State Health Department in Austin.

They cited the rise in number of isolates found in Texas in the last 5 years and a parallel increase in serotypes, which they attributed in part to the import of raw materials from abroad and to returning tourists. The rise in *Salmonella reading* isolates reflects a nationwide trend, they said. Among the outbreaks they reported were one with *Salmonella oranienburg*, the most commonly isolated serotype, and others with the rare *Salmonella chester* and *Salmonella blockley*.

They cautioned against too rapid incrimination of infection sources of outbreaks because some types are so common, recommending

phage typing for tracking down these sources. With all our emphasis on hygiene and our sanitation weapons, *Salmonella* still thrives, they commented.

Dog Food as Infection Source

Dog food as an important source of *Salmonella* infection in dogs is the subject of an ongoing study reported by Dr. Heather and Barbara Nobles of the department's division of laboratories. They believe that canine infection may be an important cause of human salmonellosis.

Inspired by a 1955 study by Galton and associates, Heather and Nobles sampled 14 brands of dog food from retail stores. Three were positive, one consistently so, and each of the others yielded *Salmonella* from one box out of six tested. To date, Heather and Nobles have found 400 isolates representing 18 serotypes, 12 of which were found in human stools.

Samples from each box cultured in tetrathionate broth and streaked with *Salmonella-Shigella* and brilliant green agar at 24- and 48-hour intervals yielded 9 serotypes; another trial with 7 enrichments and daily streaking for 4 days gave 15 serotypes. No salmonellae were found in formed or pressed foods.

Salmonella dublin Outbreak

Prefacing an account of a *Salmonella dublin* epidemic in southern California in the autumn of 1958, Dr. Robert D. Courter, assistant chief of the Veterinary Public Health Section, Communicable Disease Center, Public Health Service, stressed the economic and public health hazards posed by this organism.

Contrasted with its current importance elsewhere, the organism has low incidence in the United States thus far, and apparently appears only in the west.

In adult cattle, *S. dublin* may cause sporadic outbreaks and epidemics associated with other weakening conditions, especially in asymptomatic carrier animals. Infection in calves, severest among those up to about 3 months of age, is favored by overcrowding, poor nutrition and sanitation, and inadequate reaction to antigenic stimuli.

The California outbreak consisted of 11 laboratory-proved cases and 19 suspected, all

traced to a certified raw milk dairy. *S. dublin* was isolated from 3 of a herd of 400 cows. Courter remarked that only repeated bacteriological tests of feces are reliable in detecting infected and carrier animals. Recovery of the organism from milk, the usual medium for man-to-man infection, tends to be from fecal rather than mammary contamination.

Courter feels that the epidemic has underlined the need for close work between authorities concerned with animal health and those dealing with human health.

Says Diarrhea Hazard Is Underestimated

Neither physicians nor the public ascribe enough importance to diarrhea among children, asserted Dr. Reynaldo A. Garza, pediatrician in the coordinated service of health and assistance of Nuevo Laredo, Tamaulipas, Mexico. In his city alone, the disease causes 50 percent of all children's deaths, he said, commenting that the causes of many cases of diarrhea remain uncertain, but that some degree of malnutrition was a factor in all these deaths.

Garza proposed, for cities like his with health centers, a unit for pediatric emergencies staffed with experts in required procedures. It should be open to all at all times.

Comparing statistically deaths among children under 5 years old in Nuevo Laredo with those in several world areas, he remarked that his city's figure of 40.2 percent of all deaths lies closer to Africa's 64.4 percent than to 8.9 for the United States. Of each 1,000 live births in Nuevo Laredo, 45.96 died from diarrhea and 6.09 from malnutrition. He also observed that the rate of 12.64 for deaths from lesions due to labor, dystocia, or premature labor should stimulate further obstetrical studies.

Garza reported a Mexican study of 12,000 coprologic specimens showing first in order of frequency the *Salmonella* species: *typhimurium*, *anatum*, and *derby*; and next the *Shigella* species: *flexner*, *sonnei*, and *boydii*. In a 1958 study in Nuevo Laredo, 32 specimens had non-pathogenic *Escherichia coli* in 11 samples and *Paracolobactrum* in 4. He announced that findings of the National Pediatrics Association of Mexico in a nationwide investigation of the

etiology of infectious diarrhea has been scheduled for publication.

Level of Hog Use Is Key To Leptospirosis Rate

The rate of human infection with leptospirosis of porcine origin hinges on the total number of hogs intensively exploited rather than on the total hog population, stated Dr. Manuel V. Ramirez of the Institute of Animal Investigations, Palo Alto, Mexico. He recommended stringent measures for eliminating the disease in Mexico, emphasizing that control should start with the hog.

Pigpens should be well drained, sunlit, and well ventilated, with cement floors, abundant running water, and antirodent equipment. Measures should include periodic disinfection, isolation of newly arrived hogs until shown free of the disease, periodic testing, immunization, and treatment of carriers with antibiotics.

Discussing serotypes pathogenic to man, Ramirez observed that rodents are primary reservoirs for most, and that transmission to hogs is through contaminated food, water, or soil. Among the characteristics of leptospirae are survival for more than 10 days in water with little chlorine and longer periods in alkaline soils, death in less than 10 minutes from radioactive ultraviolet rays, less than 10 seconds in 70° C. of dry heat.

Leptospira in the hog's blood, said Ramirez, favors infection of slaughterhouse workers; in an Australian study, 76 percent of such workers showed antibodies to two serotypes. In hog-producing Iowa, a study showed 16.4 percent of veterinarians had antibodies, and in Missouri, 5.2 percent.

Urges Tightened Laws For TB Control

The weak link in tuberculosis control along the border has been in applying legal restraint on recalcitrant patients, according to Jack C. Postlewaite, director of the tuberculosis division, El Paso City-County Health Department, Tex. He commended local physicians, however, for almost unanimous cooperation in reporting tuberculosis cases during 1958.

Postlewaite observed that El Paso is exposed to the disease from both human carriers—the so-called cured and arrested cases from nearby sanatoriums—and bovine, from Mexico, where it is endemic.

Postlewaite stated that deaths from tuberculosis have declined more rapidly than the case rate in recent years. This is explained both by improvements in treatment and in casefinding and reporting. Approximately 300 patients were in the tuberculosis hospital in 1952 compared with about 700 in 1958. This rise he attributed to intensive study of a large population of potential patients. When, for example, a meningitis prophylaxis study was conducted with Federal funds among 189 patients, a concurrent rise of about 300 percent was reported in the disease's incidence among school children under age 15. Other special studies were on 397 tuberculosis contacts, with Public Health Service aid, patch tests on 10,421 children, and another using X-ray mobile units which reached 6,505 persons in the county in 1958.

Postlewaite pointed out that in 1948 hospital tuberculosis cases were evenly distributed among minimal, moderately advanced, and far advanced. Since 1952 moderately and far advanced cases have decreased, and minimal have increased 300 percent since 1955.

For developing tuberculosis control and therapy, Postlewaite's recommendations included:

- Local ordinances requiring X-ray surveys of food handlers; enforced isolation of positive pulmonary cases; appropriate legal action to hospitalize and treat recalcitrant active cases.

- Frequent public health nurse visits to homes of suspected persons; good contact studies by X-ray, skin tests, and gastric or sputum culture studies and active tuberculin skin tests of school children under age 15, and X-ray screening of older persons.

- Prohibiting tuberculosis suspects or persons with so-called arrested or cured disease from exertion until three sputum and three gastric cultures are reported negative.

- Skin tests (Mantoux) of all patients attending the well-baby clinic, at yearly or preferably 6-month intervals.

- Required regular examination, by the physician and tuberculosis control nurse, of a case

registry for control and treatment of all cases observed during the year.

- A pulmonary tuberculosis unit for isolation and therapy in a general hospital operated by the city and county, which may be used for temporary isolation and detention before transfer to the State hospital.

- A preventorium for isolation of contact children and a chronic disease hospital for patients with negative sputums but with crippling pulmonary or cardiac conditions secondary to the disease.

Screening for tuberculosis at the well-baby clinic in El Paso was described by Elizabeth Marcus, tuberculosis coordinating nurse in the El Paso City-County Health Department.

In addition, said Marcus, family members of patients are asked to the clinic for X-rays or skin tests. From the well-baby clinic following this screening routine, she announced, nine children were put under preventive treatment in 1958.

Sees Isoniazid Prophylaxis Only for High Risk Cases

Because of today's limited risk of tuberculous infection, the practicality of using isoniazid as a prophylactic among tuberculin negatives generally was questioned by Dr. Francis J. Murray, special consultant in the tuberculosis program of the Public Health Service. Its use could be foreseen where exposure is great and unavoidable, however. He mentioned large-scale studies of naval recruits indicating less than 6 percent tuberculin positives, a drop in infection prevalence to about two-thirds of the rate among them in 1950.

Murray's comments followed his review of a series of controlled studies conducted by the Public Health Service.

A longitudinal study of the chemoprophylaxis potential of isoniazid on 2,750 children with asymptomatic primary tuberculosis operated in 33 pediatric clinics in the United States, Mexico City, San Juan, P.R., and Toronto, Ontario, beginning in 1955. Administrators carefully assigned children to groups receiving isoniazid or comparable groups taking placebo, in a "double-blind" manner: neither subject nor investigator knew which were the controls.

Daily doses of isoniazid were from 4 to 6 mg. per kilogram of body weight. About 60 percent of each group were less than 4 years old, 10 percent less than a year, and the rest ranged up to 16.

Results of clinical, laboratory, and X-ray examinations made monthly the first year and quarterly the second were evaluated by a board of six investigators selected by all such participating workers. The first year, 2 definite complications showed in the isoniazid group compared with 27 among the controls. In the second year, among the 750 taking isoniazid and 740 taking placebo, the figures were 3 and 6.

A subsequent study begun in 1957 has covered about 28,000 household contacts in cooperation with 37 health departments in the United States and in Juarez, in 16 centers in Puerto Rico, and 27 villages in Alaska. About 3,500 of these contacts are in border States.

Members of households with new cases are X-rayed and tuberculin tested. The contact population is divided at random into matched groups by household size, one to receive isoniazid and the other, placebo. The study is also double blind to eliminate bias in evaluating findings.

Murray anticipates major findings only from longer observation. Rather than reexamination at the year's end, the study checks tuberculosis incidence and deaths in contacts' localities against the roster of participants and will periodically locate and thereby determine participants' general health status, possibly through commercial credit facilities.

In mental institutions, other studies covered 5,521 participants in 25 Wisconsin county hospitals and 8,360 patients in Milledgeville State Hospital. In Michigan, 3,800 are in an on-going study, as are others in Massachusetts.

Murray observed that about 70 percent of the 85,000 new tuberculosis cases each year in this country may have been tuberculin positives before. Evidently, the disease is most often endogenous, he stated, citing in support a Danish study also indicating a higher risk for tuberculin positives than for negatives. This possibility and the constantly decreasing risk to tuberculin negatives make the prophylaxis studies especially relevant to tuberculin positive

subjects, he feels. If the studies' tuberculin positives are at decreased risk after year-long isoniazid intake, the drug will benefit markedly those now infected and indirectly cut the infection risk among those not infected, concluded Murray.

Few Bracero Health Views Changed by Work in U.S.

Health attitudes and practices of contract farm laborers from Mexico, or braceros, are not significantly changed by work in the United States, according to a survey of 1,100 of such workers reported by Henry P. Anderson, research public health sociologist, School of Public Health, University of California, Berkeley.

Designed to yield demographic, theory-oriented, and program-oriented data for public health workers serving braceros, the project was financed mainly by a Public Health Service grant. Interviewing was conducted at the El Centro, Calif., reception center, which, Ander-

son pointed out, draws mainly from one of several areas supplying these workers. The control group was made up of braceros newly entering this country.

Findings showed that the typical bracero:

- Whether single or married, had about six dependents and came from a small town or village in which he had lived all his life.

- Tended to use medical services more for scientifically recognized diseases than for folk illnesses.

- In selecting type of therapy, was influenced by economic considerations.

- Tended to be unclear about disease prevention and preventive activities of health agencies.

- Knew about origins of venereal disease but not tuberculosis, which causes the greatest number of bracero rejections.

- In choosing a physician, valued efficiency and ease of communication over personal qualities.

Pond Receives Winslow Award

M. Allen Pond, Assistant Surgeon General of the Public Health Service since 1958, has been presented with the C.-E. A. Winslow Award by the Connecticut Public Health Association.

The award, given annually to a Connecticut individual, group, or organization for an outstanding contribution in public health, is based on the ideals set by the late Charles-Edward Amory Winslow, bacteriologist, health educator, historian, pioneer in public health, author, and teacher.

Mr. Pond joined the staff of the Secretary of Health, Education, and Welfare in 1953, after serving 2 years as coordinator of community facilities services in the office of the Surgeon General. He has been a commissioned officer of the Public Health Service

since 1942, except during 1946-48 when he was assistant professor of public health at Yale University. In 1949 he was appointed chief of the Division of Engineering Resources.

Mr. Pond took a bachelor of science degree in 1935, and a master of public health degree the next year, from Yale University, where he continued on as a teacher of public health until 1942. He has been an officer in the American Public Health Association, the Yale Alumni in Public Health, and Loomis School Alumni Association.

A prolific author, he has served on the boards of *Public Health Reports*, the *Sanitarian*, and of official and private organizations connected with community building and planning.